

REMARKS

In the Final Office Action mailed February 13, 2006, the Examiner again rejected claims 1-26 under 35 U.S.C. §§ 102 and 103. In this response, Applicants present arguments that distinguish at least some of the features of the claims over the art cited by the Examiner. Accordingly, Applicants respectfully request reconsideration and allowance of all pending claims.

Amendment to Claim 1

While claim 1 is intended to be open-ended, the claim does not recite the specific term "comprising" in its original form. Accordingly, in the present response, Applicants have amended claim 1 to replace the term "of" with the term "comprising." This amendment is not believed add any new matter and is fully supported in the present application. *See e.g.* Application, page 4, para. 11 to page 7, paragraph 13; page 10, para. 26 to page 15, para. 38. Further, this interpretation of the claim is believed to be consistent with the Examiner's interpretation, as evidenced in the Office Actions. Accordingly, Applicants respectfully request entry of this amendment.

Rejection under 35 U.S.C. § 102

The Examiner rejected claims 1, 4-10, 13, 14, 17, 19-23 and 26 under U.S.C. § 102 (b) as being anticipated by U.S. Patent Application No. 6,388,577 to Carstenen, which is herein referred to as "Carstenen." Applicants respectfully assert that the Carstenen reference does not disclose each of the features in the claimed subject matter.

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under Section 102, a single reference must teach each and

every element or step of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Thus, if the claims recite even one element not found in the cited reference, the reference does not anticipate the claimed invention.

To begin, Carstenen describes a system and method for communicating with remotely controllable down hole tools in a well bore. *See* Carstenen, Abstract; col. 2, line 66 - col. 3, line 30. In Carstenen, air guns 16 and 24 are coupled to a well head and are configured to be controlled by an operator through a portable computer 34. *See id.* at col. 5, lines 43-65; col. 6, lines 31-49. The "pressure impulses" provided by the air guns 16 and 24 are controlled by the operators to access one of the down hole tools. *See id.* at col. 6, lines 50-56. To control the different tools, encoded signal patterns are utilized to access a specific down hole tool. *See id.* at col. 8, line 48 to col. 9, line 27. As such, Carstenen describes a method for an operator to control individual down hole tools through specific encoding of pressure impulses for a specific downhole tool.

In the rejection of independent claims 1 and 17, the Examiner relied upon the Carstenen reference to disclose all of the recited features. However, Applicants respectfully note that the Carstenen reference fails to disclose each of the recited features of independent claims 1 and 17. For example, Carstenen fails to disclose a system of two or more valves "arranged to actuate performance of a sequenced set of events by one or more downhole tools with the application of pressure to said valves," as recited in claim 1, and "actuating performance of a sequenced set of events by one or more downhole tools with the application of pressure over a designated pressure interval," as recited in claim 17. Further, Carstenen fails to disclose an apparatus having "a combination of two or more valves arranged within sub-assemblies wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections," as recited in claim 17. Hence, the Carstenen reference cannot anticipate independent claims 1 and 17, much less dependent claims 4-10, 13, 14, 19-23 and 26.

With regard to claim 1, the Examiner asserted that the passages from col. 5, line 42 to col. 6, line 65 and col. 11, lines 25-35 disclose the claimed subject matter. To clarify this position, the Examiner appears to make various assertions in the Final Office Action. In particular, the Examiner appears to assert that the operator can use a computer to generate the specific pulses utilized and that the valves are utilized to actuate performance of a sequenced set of events by a downhole tool. *See* Office Action, pages 7-8. Further, the Examiner appears to assert that the valves 110 and 112 of Carstenen disclose the claimed subject matter because the valves 110 and 112 receive the application of pressure and direct it toward the down hole tool 116. *See* Office Action, page 8. Accordingly, Applicants address the deficiencies of these assertions below.

With regard to the first assertion, Applicants submit that the sequence of events in Carstenen is dependent upon the operator actuating individual down hole tools, regardless of whether a computer is utilized. In the Carstenen reference, a computer is used to calculate information for the impulses and set variables for generation of the impulses. *See* Carstenen, col. 6, lines 30-35. However, regardless of the use of the computer, Carstenen explicitly states "whether the first air gun 16 or the second air gun 24 is used will be determined by the operator." *See* Carstenen, col. 6, lines 50-51. This selection by the operator determines the specific downhole tool to be operated. *See id.* at col. 6, lines 50-56. Because Carstenen is dependent upon the operator actuating individual down hole tools, the reference fails to disclose a system of two or more valves "arranged to actuate performance of a sequenced set of events by one or more downhole tools with the application of pressure to said valves," as recited in claim 1. Thus, Applicants submit that it is the operator in Carstenen that provides the sequence of events by downhole tools, not the application of pressure to the system of two or more valves.

With regard to the second assertion, Applicants submit that the valves 110 and 112 do not correspond to the claimed "two or more valves" of claim 1 and 17. In this assertion, the Examiner refers to the crown valve 110 and the jumper valve 112 as the valves that are utilized to actuate performance of a sequenced set of events by a down

hole tool, such as tool 116. While the application of hydraulic or specific pressure impulses may be used to control the crown valve 110 and the jumper valve 112, the pressure impulses that open or close these valves 110 and 112 are not disclosed as actuating the performance of a sequenced set of events by one or more downhole tools. In fact, if the valves 110 and 112 are closed, the pressure impulses may be utilized to open the valves 110 and 112. However, the pressure impulses would be directed to these specific valves 110 and 112 and would not propagate into the wellbore to other downhole tools. *See* Carstenen, col. 8, lines 49-57. Alternatively, if the valves 110 and 112 are open, the pressure impulses simply pass through the valves, but do not apply pressure to the valves. Again, in this configuration, the pressure impulses would likely be specifically encoded to a specific down-hole tool 116, which only activates the down hole tool 116 to perform a single event, such as opening or closing a sleeve valve. *See id.* at col. 6, lines 50-56; col. 6, line 62 to col. 7, line 16; col. 8, lines 49-57. This single event by a downhole tool is not a sequence of events. As such, because Carstenen describes communicating with individual down-hole tools to perform specific events, the reference does not disclose or suggest the application of pressure to valves "to actuate performance of a sequenced set of events by one or more downhole tools," as recited in claim 1. As such, Carstenen fails to disclose the claimed subject matter of claim 1.

With regard to claim 17, the Examiner again asserted that the passages from col. 5, line 42 to col. 6, line 65 and col. 11, lines 25-35 discloses the claimed subject matter. Despite this assertion, Applicants submit that these passages do not disclose the recitation of "actuating performance of a sequenced set of events by one or more downhole tools with the application of pressure over a designated pressure interval," as recited in claim 17. For at least the reasons discussed above, the operator determines the sequence of downhole tools to be utilized and the valves 110 and 112 do not correspond to the system of "two or more valves" in claim 17.

Further, Applicants submit that these passages do not disclose the recitation of "a combination of two or more valves arranged within sub-assemblies wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections," as recited in claim 17. In particular, the Examiner appears to rely upon the passages from col. 5, line 47 to col. 6, line 16 and col. 11, lines 25-35 to disclose this recitation. However, these passages do not appear to disclose pressure isolating connections between devices for communication. In Carstenen, the well head 12 has various guns 16 and 24, which appear to communicate via electrical connections, not pressure isolating connections. *See id.* Fig. 1 and 4; col. 5, lines 42-65. Further, while the valves 110 and 112 may be controlled hydraulically, the description and FIG. 9 do not appear to disclose any pressure isolating connections between the subassemblies. *See id.* Fig. 9; col. 11, lines 19-35. As such, because Carstenen does not disclose any pressure isolating connections between subassemblies, the reference fails to disclose "a combination of two or more valves arranged within sub-assemblies wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections," as recited in claim 17. Thus, Applicants submit that Carstenen fails to anticipate claim 17 and the claims depending therefrom.

Accordingly, in view of the remarks set forth above, Applicants respectfully submit that the Carstenen reference cannot support a *prima facie* case of anticipation. Therefore, Applicants respectfully request the Examiner withdraw the rejection and allow the pending claims 1, 4-10, 13, 14, 17, 19-23 and 26.

First Rejection under 35 U.S.C. § 103

The Examiner rejected claims 2, 3, 12, 18 and 25 under 35 U.S.C. § 103 (a) as being unpatentable over Carstenen in view of U.S. Patent No. 6,450,263 to Schewendemann, which is herein referred to as "Schewendemann." Applicants respectfully assert that Carstenen and Schewendemann do not disclose or teach the claimed subject matter.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

In the rejection of claims 2, 3, 12, 18 and 25, the Examiner asserted that Carstenen teaches all of the recited features except the cartridge valves, a single purpose cartridge valve, or that burst disks is present to allow fluid flow out of one or more downhole tools. In an attempt to cure these deficiencies, the Examiner asserted that these features are shown by the Schewendemann reference. However, the cited reference fails to cure the deficiencies of Carstenen. Hence, the cited references, alone or in combination, cannot render the claimed subject matter obvious.

It should be noted that claims 2, 3, 12, 18 and 25 depend from independent claims 1 and 17, and are believed to be patentable based on the dependence. The Schewendemann reference describes an automated method for activating a downhole

tool with a rupture disk. *See* Schewendemann col. 2, lines 7-12. In Schewendemann, a cylindrical casing 102 defines a central passage with a rupture portion 110 that withstands the annular pressure. *See id.* at col. 3, lines 1-11. The trigger for the rupture portion 110 may be a transmitted signal. *See id.* at col. 3, lines 21-28. This reference appears to be devoid of any mention of a system of two or more valves arranged to actuate performance of a sequenced set of events by one or more downhole tools with the application of pressure to the valves, much less a combination of two or more valves that communicate through pressure isolating connections. As such, Schewendemann does not cure the deficiencies of Carstenen.

Accordingly, in view of the remarks set forth above, Applicants respectfully submit that the Carstenen and Schewendemann references cannot support a *prima facie* case of obviousness. Therefore, Applicants respectfully request the Examiner's withdraw the rejection and allow the pending claims 2, 3, 12, 18 and 25.

Second Rejection under 35 U.S.C. § 103

The Examiner rejected claims 2, 3, 11, 12, 18, 24 and 25 under 35 U.S.C. § 103 (a) as being unpatentable over Carstenen and U.S. Patent No. 4,865,127 to Koster, which is herein referred to as "Koster." Applicants respectfully assert that Carstenen and Koster do not disclose or teach the claimed subject matter.

In the rejection, the Examiner admitted that the Carstenen reference does not explicitly teach the one or more valves being a cartridge valve, a single purpose cartridge valve, that burst disks is present to allow fluid flow out of one or more downhole tools, or that at least one screen is adapted to filter solids having predefined dimensions from fluids before the fluids flow through the one or more of the valves. In an attempt to cure these deficiencies, the Examiner relied on the Koster reference. However, the cited reference fails to cure the deficiencies of Carstenen, which are discussed above. Hence, the cited references, alone or in combination, cannot render the claimed subject matter obvious.

Claims 2, 3, 11, 12, 18, 24 and 25 depend from either independent claims 1 or 17, and are believed to be patentable based on this dependence. The Koster reference discloses a method for relining downhole casing by wrapping a resilient flexible strip lining material about a special downhole tool. *See* Koster, col. 1, lines 40-47. In Koster, a circulating means as part of the downhole tool is used and controlled from the surface. *See id.* at col. 1, lines 33-61. Clearly, Koster does not a system of two or more valves arranged to actuate performance of a sequenced set of events by one or more downhole tools with the application of pressure to the valves because the downhole tool is a single device controlled from the surface. As such, Koster does not cure the deficiencies of Carstenen.

Accordingly, in view of the remarks set forth above, Applicants respectfully submit that the Carstenen and Koster references cannot support a *prima facie* case of obviousness. Therefore, Applicants respectfully request the Examiner's withdraw the rejection and allow the pending claims 2, 3, 11, 12, 18, 24 and 25.

Third Rejection under 35 U.S.C. § 103

The Examiner rejected claims 15 and 16 under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 5,704,426 to Rytlewski, which is herein referred to as "Rytlewski," in view of Carstenen. Applicants respectfully assert that Rytlewski and Carstenen do not disclose or teach the claimed subject matter.

In the rejection, the Examiner asserted that the Rytlewski reference discloses all of the claimed subject matter, but does not expressly teach that at least one of said steps is actuated by a system of valves that operates over a designated pressure interval and is arranged to actuate performance of said step with the application of pressure to said valves. In an attempt to cure this deficiency, the Examiner relied on the Carstenen reference. However, the cited reference fails to cure the deficiencies of Rytlewski, which are noted above. For instance, the cited references fail to provide or teach "wherein at least one of said steps is actuated by a system of valves that operates over a designated pressure interval and is arranged to actuate performance of said step with the application of pressure to said valves," as recited in claim 15. Hence, the

cited references, alone or in combination, cannot render the claimed subject matter obvious.

The Rytlewski reference describes a zonal isolation method and apparatus adapted for perforating different intervals within a formation. *See* Rytlewski, col. 2, lines 24-32. In Rytlewski, a resettable plug 158 is utilized with perforating guns 152, 154 and 156. *See id.* at col. 11, lines 34-44. The resettable plug 158 and perforating guns 152, 154 and 156 are set at different intervals to perforate the respective intervals. *See id.* at col. 11, line 50 to col. 12, line 29. As such, Rytlewski describes a method for perforating various intervals with a single trip into the wellbore.

Because the Examiner admitted that the Rytlewski reference does not expressly teach that at least one of said steps is actuated by a system of valves that operates over a designated pressure interval and is arranged to actuate performance of said step with the application of pressure to said valves, the Carstenen reference has to provide this claimed subject matter for the rejection to stand. However, as noted above, the Carstenen reference does not disclose the application of pressure to a system of valves to activate one of the steps. In Carstenen, pressure impulses are sent to specific downhole tools to activate the individual downhole tools, for at least the reasons discussed above. As such, the Carstenen reference does not cure the deficiencies of the Rytlewski reference.

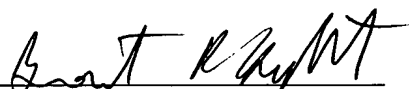
Accordingly, in view of the remarks set forth above, Applicants respectfully submit that the Rytlewski and Carstenen references cannot support a *prima facie* case of obviousness. Therefore, Applicants respectfully request the Examiner's withdraw the rejection and allow the pending claims 15 and 16.

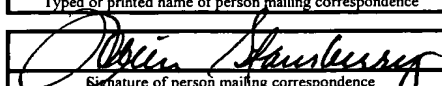
CONCLUSION

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: April 13, 2006


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